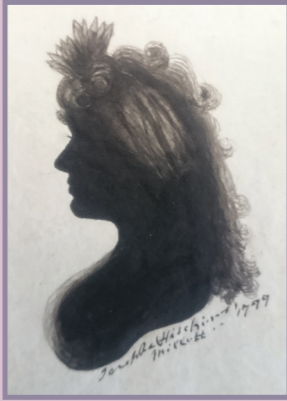


FAMILY MATTERS

Malachy Hitchins married Joanna (or Johanna) Hawkin on January 10th 1764 at Buckland Brewer in Devon. She had been born in Shebbear, Devon, in 1739 and was a member of the well-off Fortescue family of that area.



Richard Hawkin Hitchins, their first child, was baptized on October 21st 1764 in Bideford. He was to follow his father to Exeter College, Oxford, where he gained his MA in 1789 and BD in 1799.

Thomas Martyn Hitchins was baptized on May 20th 1766 in Merton. He married Emma Granville on March 28th 1799 at St Hilary. Emma's sister Lydia was to have a well-documented love affair with Henry Martyn, Thomas' Cousin.

Josepha Hitchins, Malachy's only daughter, was born on June 2nd 1768 in Merton. She married William Millett (1762-1821) on March 1st 1800 at St Hilary and lived at Gurlyn in the parish of St Erth.

William Malachy Hitchins was born on August 19th 1770 in Merton. He worked as an assistant to Nevil Maskelyne, the Astronomer Royal, in 1787.

Fortescue Hitchins was born at St Hilary on February 22nd 1784. Fortescue was an author and poet. His compilation *The Sea Shore, with Other Poems* (1810) was well received at the time. Fortescue died in Marazion on April 1st 1814, aged 30.

Malachy Hitchins died in St Hilary on March 28th 1809. He was buried within the church at St Hilary but unfortunately the grave is no longer marked. A fire destroyed the church on Good Friday 1853. A new church was built on the site of the original. A raised floor was laid so the graves were not disturbed.



ST HILARY CHURCHTOWN

St Hilary lies half a mile off an old ridgeway, once the main arterial link to London before the A30 superseded it. The village nestles down a quiet back lane, a couple of miles from Mount's Bay. There is today a collection of about dozen houses, an old school house (now a heritage centre), and the 13th-century parish church. What is an idyllic and peaceful location today would have been very different during the late 1700s. This was once a bustling area of tin and copper mines with a population of 996 people in 1801, a population which was expanding rapidly due to the mining opportunities.

ST HILARY HERITAGE CENTRE

Open May – Sept
Wednesdays and Fridays only 11-4pm

THE CHURCH

Well known for its links to the Newlyn artists, St Hilary Church is adorned with art from the early 20th century. Open in daylight hours.

TEXT

Carolyn Kennett FRAS

IMAGE CREDITS

Carolyn Kennett

Malachy Hitchins portrait by John Opie, reproduced by kind permission of Andrew Maden

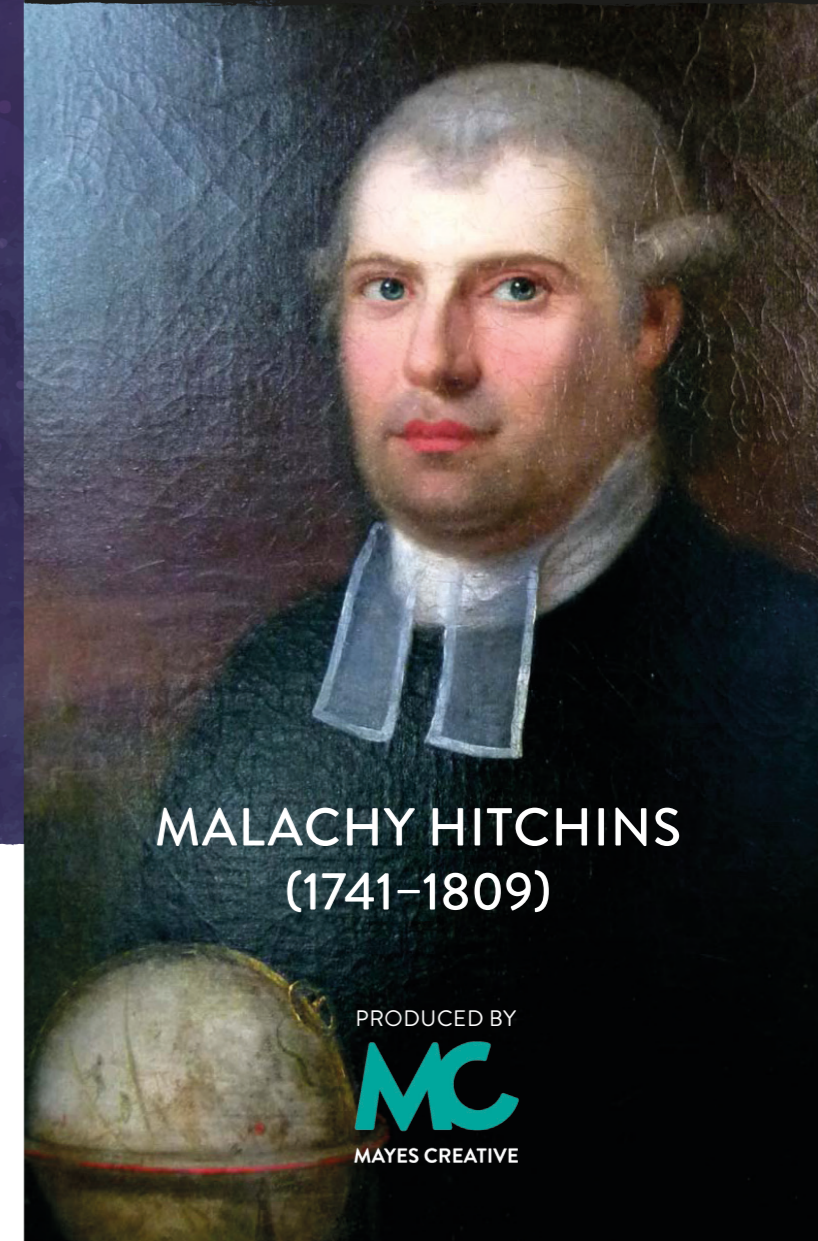
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MALACHY HITCHINS
(1741-1809)

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EARLY LIFE AND EDUCATION

Malachy Hitchins was born in 1741 in Trevince, Gwennap, Cornwall. His father was Thomas Hitchins (1697–1746), a local miner, and his mother, Grace Martyn, was the sister of Thomas Martyn, a local cartographer.

Self-Schooled, he initially worked as a miner in the local tin mines. Due to his mathematical abilities he was offered a job assisting the mathematician Benjamin Donn (1729–98) on surveying for a map of the county of Devon. While the survey was completed he resided in Bideford and wrote regularly about maths and astronomy to *The Ladies Magazine* and *The Gentleman's Magazine*.

On completion of the survey he gained admittance to Exeter College, Oxford, where his fees were paid for by his wife Johanna. His tutor at Oxford recommended him the Astronomer Royal Nevil Maskelyne, who gave him employment from 1767 onwards.



ROYAL OBSERVATORY, GREENWICH

Malachy was employed initially on computing the calculations of the Nautical Almanac. In 1769 he was asked to assist the Astronomer Royal, Nevil Maskelyne in recording the transit of Venus. This would enable astronomers to measure the distance between the Earth and the Sun with far greater accuracy than had previously been possible. From April 24th until August 10th of 1769, Hitchins assisted Maskelyne in the Observatory's routine work of observing meridian transits of stars and planets. Seven people gathered at the observatory to observe the all-important transit on the evening of June 3rd 1769. Malachy was placed in the eastern summer house with a reflector of 6 feet focal length magnifying 90 times. Unfortunately, the results were less accurate than hoped as it was difficult to time the exact moment when Venus reached the edge of the Sun. Hitchins recorded times of first contact that differed by 17 seconds to other observers. Using the solar parallax values obtained from the 1769 the mean distance from the Earth to the Sun was 93,726,900 miles. The radar-based value used today for the astronomical unit is 92,955,000 miles (149,597,000 km). This is only a difference of eight-tenths of one percent. Considering what these astronomers had to work with, their results were absolutely remarkable.



TRANSIT OF VENUS over the Sun
The External Contact observed by several Persons

Observer	Time
Nevil Maskelyne, 2 Foot Reflector magnifies	12 57 22
Malachy Hitchins, 6 Foot Reflector magnifies	12 57 22
Rev. William Hurst, 2 Foot Reflector magnifies	12 57 22
John Horsley, Esq, 10 Foot Achromatic magnifies	12 57 22
Mr. Samuel Dunn, 31 Foot Achromatic magnifies	12 57 22
Mr. Peter Daltrey, 31 Foot Achromatic magnifies	12 57 22
Mr. Edward Nairne, 2 Foot Reflector magnifies	12 57 22

Regular Circumferences of 0 and 9 in Contact, observed by several Persons

Observer	Time
Nevil Maskelyne, 2 Foot Reflector	12 56 58 or 7 28 31
Malachy Hitchins, 6 Foot Reflector	12 56 58 or 7 28 47
Rev. William Hurst, 2 Foot Reflector	12 56 58 or 7 28 45
John Horsley, Esq, 10 Foot Achromatic	12 56 58 or 7 29 28

Completion of the Thread of Light, or the Internal Contact:

Observer	Time
Nevil Maskelyne 2 Foot Reflector	12 55 50 or 7 29 33
Malachy Hitchins, 6 Foot Reflector	12 55 24 or 7 28 57
Rev. William Hurst, 2 Foot Reflector	12 55 45 or 7 29 16
John Horsley, Esq, 10 Foot Achromatic	12 55 51 or 7 29 39
Mr. Samuel Dunn, 31 Foot Achromatic	12 56 15 or 7 29 39

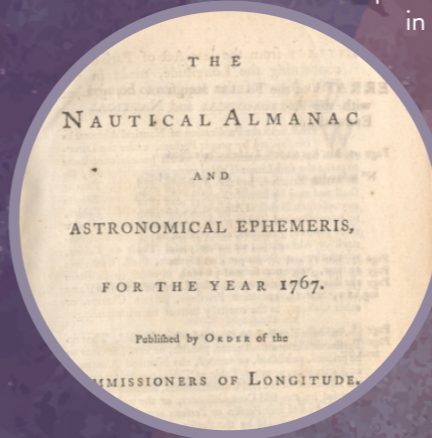
Mr. Peter Daltrey and Mr. Edward Nairne judged the Internal Contact, and thought it just ready to be formed, but did not see it completed, at 12^h 15^m 48^s or 7^h 29^m 20^s.

During these Observations the Air was very clear with a Weak Wind, and the Sun shone brightly.

For the Internal Contact I measured Venus's Horizontal Diameter with a 2 Foot Reflecting Telescope, and the Extremes differing 4^t from one another, the Diameter being very much.

THE NAUTICAL ALMANAC

In 1775 Malachy accepted the position of parish vicar at St Hilary. He moved with his family into the vicarage in November 1775. In 1785 he also became vicar of the parish of Gwinear. He retained both livings until his death, mixing his parish duties with those of his work on The Nautical Almanac. The Nautical Almanac and Astronomical Ephemeris was first issued



in 1766 for the year 1767. Its aim was to simplify the complex calculations needed for determining longitude at sea by the lunar distance method. Previously, the calculation of longitude at sea had been virtually impossible. Parliament pushed through a Longitude Act in 1714, offering a prize of

£20,000 to anyone who could find a way of calculating longitude at sea to within half a degree. By 1767 the solution to the longitude problem had not been found, although a number of ideas were close and had already received part-payments. These included John Harrison's chronometers as well as the lunar method as devised by Tobias Mayer which involved measuring the angular distance between the Moon and certain reference stars.

Two computers would make each set of calculations independently, following the detailed instructions he had issued, and he would then check the results in person. Malachy must have impressed Maskelyne in his accuracy as a computer because in 1769, after one year in the job, he was promoted to the role of comparer, in which he would cross-check the work of two other computers. By 1778 he had taken on Maskelyne's role as the main comparer, a role he retained until his death in 1809.

INFLUENCES

The Nautical Almanac computers were selected for their mathematical prowess. Malachy employed both men and women countrywide. Later Malachy was able to assemble a local group of men to participate in the work with the Nautical Almanac.



Nicholas James, who was first of the locals to be taken on by Malachy as a computer on The Nautical Almanac, was recruited at short notice in 1799 to replace another computer. By 1799, when he was 26, he was listed as a schoolmaster on the village census. James worked on the Almanac until 1828, becoming one of the longest serving and most trusted of the computers.

William Dunkin, the father of the more famous Edwin Dunkin, was employed by Malachy from 1804. When Hitchins died in 1809 Dunkin temporarily took over his role of comparer.

The Giddy family were from the neighbouring parish of St Erth, about three miles north of St Hilary. Edward Giddy was curate of the church, and his son, Davies, was born in the village in 1767. Davies Giddy was educated at Penzance Grammar School, and this education was extended under the careful watch of Malachy, who took the young man under his wing as a private student. Davis Giddy would become the President of the Royal Society.